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REMARKS

Claims 1-64 are currently pending in the subject application and are presently under consideration. Claims 3-18, 21-29, 32-38, 41, 45-48, 50-51, 55-57, and 59-60 have been amended to correct minor informalities as shown at pages 2-19 of the Reply. These amendments should be entered since they do not require a further search and they place the application in condition for allowance or in better form for appeal. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 1-64 Under 35 U.S.C. §101

Claims 1-64 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. It is respectfully submitted that this rejection is improper for at least the following reasons. The subject claims product a useful, concrete and tangible result.

Because the claimed process applies the Boolean principle [abstract idea] *to produce a useful, concrete, tangible result* ... on its face the claimed process comfortably falls within the scope of §101. *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358. (Fed.Cir. 1999) (Emphasis added); *See State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373, 47 USPQ2d 1596, 1601 (Fed.Cir.1998). The inquiry into patentability requires an examination of the contested claims to see if the claimed subject matter, as a whole, is a disembodied mathematical concept representing nothing more than a "law of nature" or an "abstract idea," or if the mathematical concept has been *reduced to some practical application rendering it "useful."* *AT&T* at 1357 citing *In re Alappat*, 33 F.3d 1526, 31 1544, 31 U.S.P.Q.2D (BNA) 1545, 1557 (Fed. Cir. 1994) (Emphasis added) (holding that more than an abstract idea was claimed because the claimed invention as a whole was directed toward forming a specific machine that produced the useful, concrete, and tangible result of a smooth waveform display).

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The subject invention, as evidenced by independent claims 1, 19, 30, 42, 44, 53, 54, 62, 63, and 64, produces a useful, concrete, and tangible result. Independent claim 1 (and similarly independent claims 19, 30, 42, 44, 53, 54, 62, 63, and 64) recites a first training algorithm that efficiently builds a rough model from a subset of the computer readable data set; an evaluation component that determines whether the subset of the computer readable data set is an appropriate subset to build a model for the computer readable data set; and a second training algorithm that builds a refined model for the computer readable data set from the subset if deemed appropriate by the evaluation component.

The applicants' claimed invention yields a number of useful, concrete, and tangible results. In particular, the subject claims recite that a refined model for the computer readable data set is built based on an appropriate subset from the computer readable data set. This refined model is a useful, concrete and tangible result. For example, one would appreciate that the refined model can be employed in connection with clustering, data mining, *etc.* Additionally, the applicants' claims recite that an appropriate subset from which to build a model is determined. The determination of the appropriate subset is a useful, tangible, and concrete result since it enables identifying a subset from which to build the refined model that provides for a balance between accuracy and efficiency associated with model generation.

The Office Action dated May 18, 2005 contends that the "Examiner finds that Applicant manipulated a set of abstract 'computer readable data sets' to solve purely algorithmic problems in the abstract." (See pg. 6). Applicants' representative disagrees with such contention. Similar to the result produced in *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, the manipulation of computer readable data sets (*e.g.*, building a rough model from a subset, evaluating the subset to determine whether it is appropriate, building a refined model based on the appropriate subset, ...) constitutes a practical application because it produces useful, concrete and tangible results – namely, a refined model of the computer readable data set and a determination of an appropriate subset from which to build the refined model. Thus, the subject claims are not directed to manipulating an abstract idea since the claims relate to a practical application that is useful, concrete and tangible.

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In view of the above, it is readily apparent that the claimed invention reduces to a practical application that produces a useful, concrete, tangible result; therefore, pursuant to *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358 (Fed. Cir. 1999), the subject claims are directed to statutory subject matter pursuant to 35 U.S.C. §101. Accordingly, this rejection should be withdrawn.

II. Rejection of Claims 1-64 Under 35 U.S.C. §112, First Paragraph

Claims 1-64 stand rejected under 35 U.S.C. §112, first paragraph, because current case law and the MPEP require such a rejection for claims that stand rejected under 35 U.S.C. §101. It is respectfully submitted that this rejection is improper for at least the following reasons. The rejection of claims 1-64 under 35 U.S.C. §101 should be withdrawn pursuant to the aforementioned comments rendering the subject rejection moot. Accordingly, this rejection should be withdrawn.

III. Rejection of Claims 1, 19, 30, 42, and 64 Under 35 U.S.C. §102(b)

Claims 1, 19, 30, 42, and 64 stand rejected under 35 U.S.C. §102(b) as being anticipated by Guha *et al.* (U.S. 5,140,530). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Guha *et al.* does not anticipate or suggest each and every element of the subject claims.

For a prior art reference to anticipate, 35 U.S.C. §102 requires that “*each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999) (*quoting Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)) (emphasis added).

The subject claims relate to systems and methods that facilitate building a model to characterize data based on an appropriately sized subset of the computer readable data set. In particular, independent claim 1 (and similarly independent claims 19, 30, 42, and 64) recites an evaluation component that determines whether the subset of the computer readable data set is an appropriate subset to build a model for the computer readable data

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set and a second training algorithm that builds a refined model for the computer readable data set from the subset if deemed appropriate. Guha *et al.* fails to anticipate or suggest such claimed aspects.

More particularly, Guha *et al.* does not anticipate or suggest employing a subset of the computer readable data set as recited in the subject claims. The Office Action asserts that "the 'network blueprints' shown in Fig. 2 are the design parameters (or the 'subsets' of 'computer readable data'...) being used to build the candidate models in the genetically evolving population. (See Office Action dated May 18, 2005, pg. 11). Applicants' representative avers to the contrary. The blueprints are bit stream designs for different neural networks. (See col. 2, ll. 63-66). The blueprints can specify genetic algorithm parameters that determine how the genetic operators are used to construct network structures and an evaluation function that determines the fitness of a network for a specific application. (See col. 3, ll. 55-61). However, Guha *et al.* is silent regarding the blueprint being a subset from a data set which is to be modeled. The applicants' claims instead relate to employing a subset from a data set to build a model that represents the data set; hence, a portion of or an entire data set is employed in connection with the modeling the data set. Thus, Guha *et al.* fails to anticipate or suggest such claimed aspects.

Furthermore, Guha *et al.* does not anticipate or suggest an evaluation component that determines whether the subset of the computer readable data set is an appropriate subset to build a model for the computer readable data set as claimed. The Office Action contends that "the box that performs network performance evaluation in Fig. 2" discloses such aspects since "the genetic algorithm uses this process to determine whether the specific network blueprints ... are appropriate subsets to build a model for the computer readable data set." (See Office Action dated May 18, 2005, pg. 12). Applicants' representative respectfully disagrees with such contentions. Guha *et al.* discloses that the fitness of a network can be determined by the evaluation function. (See col. 3, ll. 59-61). However, Guha *et al.* does not evaluate whether a subset from a data set which was utilized to build a model is an appropriate subset since the blueprints are not subsets of the data sets as noted previously. Thus, Guha *et al.* fails to teach or suggest applicants' invention as claimed.

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Moreover, Guha *et al.* does not teach or suggest a second training algorithm that builds a refined model for the computer readable data set from the subset if deemed appropriate as recited in the subject claims. The Office Action contends that the “‘second training algorithm’ ... is the algorithm that is used to take the untrained network, at the bottom of Fig. 2, into a trained state, at the bottom-right of Fig. 2.” (See Office Action dated May 18, 2005, pg. 13). Applicants’ representative disagrees with such contentions. Guha *et al.* updates blueprints in a cyclical manner as depicted in Fig. 2. Fig. 2 illustrates that an untrained network is trained, and then the trained network is evaluated to determine the blueprint fitness. Thus, Guha *et al.* fails to anticipate or suggest that a second training algorithm builds a refined model *from the subset if deemed appropriate*.

In view of at least the foregoing, it is readily apparent that Guha *et al.* does not anticipate or suggest the subject invention as recited in claims 1, 19, 30, 42, and 64. Accordingly, claims 2-18, 20-29, 31-41, and 43, which respectively depend from independent claims 1, 19, 30, and 42, are believed to be allowable. This rejection should be withdrawn.

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The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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